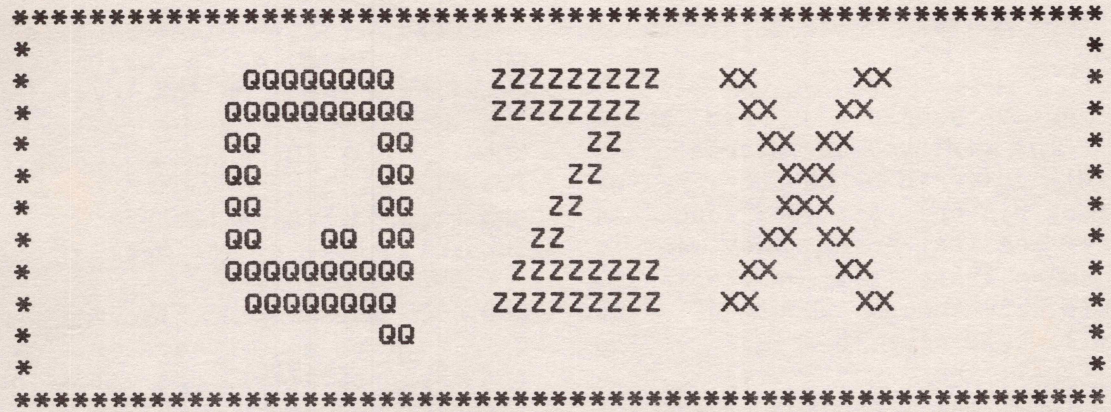

The Journal Covering Amateur Radio & Sinclair Computers
ZX-80; Micro-Ace; ZX81; T/S 1000, 1500, & 2068; QL
Alex. F. Burr, K5XY, Publisher
2025 O'Donnell Drive
Las Cruces, New Mexico
88001

Volume 6 Number 3 ($1.50 / issue) February 1987

* Publisher's Notes
* Controversy
* Fixing 2050 Modem Boards — Pete Fischer
* Equipment Specials
* More Field Day Log Changes — KQ2F
* Bits and Bytes
* QL Programming Book Review — K5XY
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Publisher's Notes
K5XY

I quess people do read these notes. The keytops and internal RAM so kindly offered by WA5DUC in the last issue did not last very long. In fact they are long gone. They went to KF5GG. When these items were offered, I should have thought about all the letters I would have to write telling people that they had already been spoken for. But I can not think of another way of giving them away anyway. Those who are still interested in keytops should see the BB column in this issue. I used most of the extra stamps which were sent on the rejection letters. Those who sent cash received it back unless you were one of the several which requested that the money go to the QZX postage fund.

It is interesting to analyse our subscription list as much as time allows. At least it keeps the data base program busy. We have always had a high percentage of people renew. The difficulty is that because hams are not buying many new Sinclair computers, we are not getting many new subscribers to replace those who do drop out.

The following table tells quite a bit obout the loyalty of our current subscribers.

Number of times the subscriber has renewed	% of the current list with that number of renewals
0	10
1	15
2	13
3	20
4	35
5	8

It is interesting to note that, of all the subscribers who have not renewed at least once, only 5 are hams.

Here is an interesting sentence which I read in a major computer magazine and put on the local T/S BBS.

From: Alex Burr
To: All
Msg #61, 03-Feb-88 12:24pm
Subject: quote of the week

QUOTE OF THE WEEK: "These difficulties were caused by slow run and response times, communications problems and leaky disk drives." from Computer World 88 F 01 p10.

A small triumph has occured. If the printer cooperates as I expect him to, the February issue will actually be mailed in February.

I received the following message from KA1LM after I visited him as described in the Publisher's Notes section last month.

From: Steve Greene
Rec'd
Orig: Muse City (109/705) Arlington VA
To: Alex Burr
Msg #23, 01-Feb-88 11:18am
Subject: Our Eyeball QSO

Alex:
Thanks for taking the time out of your schedule to drop in and say hello. It's always nice to be able to connect a real live face to the voice or keyboard on the other end of the line.

I'll pass along anything else I pick up at the CATS meetings regarding the Z88, etc. Keep up the good work with QZX - I keep finding interesting and "neat" ideas for the ol' Sinclairs.

73, de KA1LM/4, Steve Greene, Fairfax VA

CONTROVERSY

Every magazine editor likes to get a good edifying controversy going. It looks like I started a controversy, but I am not sure how edifying it is. I received the following letter after the November issue made its way across the eastern ocean (or perhaps I should say Atlantic ocean before somebody tells me that my geography is unduely selfcentered).

Paul Newman G4INP
3 Red House Lane
Leiston
Suffolk IP16 4JZ
UK

21 January 1988

Dear Alex

Thank you for the latest QZX, the contents of which were, as usual very interesting indeed.

I am also moved to write by what I consider to be a rather ill judged remark at the foot of column 1, page 15.

I quote "....Great Britain is the only country that I know which is so egotistical that the stamp includes absolutely no printing that indicates the country of origin. The best that it does is an old profile of Queen Elizabeth II."

The reason that UK stamps have no country-name on them is due to one, very simple historical fact. Great Britain issued the FIRST common-usage Postage Stamps. It was deemed unnecessary to state the country of origin since this was implicit; hence the historical difference. I would also point out the a recent survey indicated that Her Majesty Queen Elizabeth II was probably the best known person in the world far above, for example, all politicians including the President of the United States!

The accusation of being egotistical is absolutley false and very ill judged; some might find it gratuitously offensive. The fact that (you presumably) clearly recognised the letter as of UK origin from its stamp speaks for itself! One is tempted to say that for example stamps bearing no legend but merely a picture of the Grand Canyon, or an Indian Teepee (pardon the spelling), or the Empire State Building would be just as identifiable as American and I for one would not accuse your nation of being egotistical on that count.

I trust that I have made my point!

73

ss PAUL

Paul is right on one (at least) thing. I did put a couple of gratuitous sentences into the article referenced. When I wrote them, I wondered if they would get a rise out of any of our overseas readers. I need wonder no more. It was just a bit of Lion tail tweeking. (For those not versed in international relations, Lion tail tweeking is akin to Eagle feather plucking and is relatively harmless if one keeps ones sense of humor.)

Paul does not know how lucky he is. When I referred to Queen Elizabeth II, I almost left the II out in deference to those citizens of Great Britain who object to that particular part of the style adopted by the ruling monarch. But enough of this. In any exchange of this type, the balance of power is unfairly weighted in favor of him who controls what is printed. Besides, as I said, it is not very edifying, particularly as regards our fine computers; and we all know where they came from.

From the Guide to T/S Telecommunications
Edited by Pete Fischer, Box 2002, Tempe, AZ 85281

Fixing 2050 Modem Boards

HELP ON REPAIRING 2050 MODEM BOARDS

These board are currently available for pennies on the dollar from several T/S retailers. Early reports of failure to get them working have been replaced by many recent reports of success. Here are some tips from those who won:

"The important thing to remember is that these are NOT units which once worked and have developed a fault. Almost anything can be wrong AND several unrelated faults may be present. A weak point is the ribbon cable..." On the small PC Board which connects to the computer, the cable is VERY insecure. This is due to the lack of a case on that end. One can solve this problem several ways. The easiest is to wrap an insulated wire catty corner through the existing holes in the PC Board and tying it securely so the cable can't move. It's also very easy to make a small "Case" out of wood or plastic. The main point is to prevent the cable from ANY motion relative to the Board. All the wires on the cable should be attached IN ORDER. Examine these to be sure they're all connected. These have even broken during shipping.

IMPORTANT NOTE!!! Don't just take the modem out of the box, hook it up to your 2068 and try it! Many of these boards have never been powered up and you may very easily damage your computer! With the price of 2068's in the $140 range, why not test the modem on a T/S 1000? (Dave Schoenwetter's idea). Then you are not taking such a risk.

But even before testing on a 1000, do a THOROUGH and COMPLETE examination of board. First, look for the obvious, missing parts, snipped leads, solder bridges, broken traces and "cold" solder joints. Be patient, look closely, perhaps with a magnifying glass. There SHOULD BE some jumper wires on the non-component side, six to be exact. There should be 5 places where the traces on the PC Board have been intentionally "broken". If you buy the boards from Grey & Clifford, they provide full documentation on this. Before testing you may want to check the ribbon cable at the modem end. It is possible this "press-on" process didn't quite work out, and the ribbon is out-of-line with the pins on the modem board. You won't be able to tell for sure without removing the top piece on the connector.

There have been cases where a computer was damaged due to such mis-aligned leads and/or a small piece of foil inside this connector, shorting out two leads. Judge the risk for yourself, but don't say you weren't warned!

If you have gone ahead and tested it, with no results, you will really need a schematic. This schematic has been found in a number of User Group newsletters. In it's small form, is also provided free with the purchase of cards from G & C Comp. But if you have trouble reading those, G & C sell "Full size" 17 X 22 set of 2 prints which and Very clear for $5. Once you have the schematic, go through all the components to make sure they are the right value and polarity. On a NUMBER of boards. R-28 and C-22 were snipped and pulled up, but you should have seen that in your first inspection. Also R-13 and R-23 are the wrong values on some boards they should be 2.4 Ohms and 4.7K Ohms respectively. Other components which are frequently bad are the relays and the transformer. If you've gone through all these steps and still no luck, then you will need the help of someone with the proper test equipment and experience. Kurt Casby also wrote an excellent article on the subject in RAMTOP which was later reproduced in the Jan 87 edition of The PLOTTER. Anchor Automation offers no support for this modem, at present, but one free publication which explains the theory of the modem is available from Motorola. That is Application Note AN-891. write to Motorola/3501 Ed Bluestein Blvd./Austin,TX 78721. This covers the chip set used in the 2050.

EQUIPMENT SPECIALS

This is a occasional column in which we will list some of the equipment in which we think our readers will be especially interested or which appear to be special bargains. If you have suggestions for items to appear here send them in. If you have comments on the items which appear here send them in too. The information here is as accurate and as complete as we can make it, but is listed here only as an indication as to what might be available. Any decision to purchase should only be made after further investigation.

ITEM	COMMENTS	$	ID
ZX81	Computer only	$20	HT
WC2050	untested modem board	$10	GC
2050 to rs232 conversion		$20	ZS
All Timex computers		varies	EB
MTERM II for T/S 2068		$30	ZS
	advanced terminal software		EB
Above	in cartridge form	$35	ZS
The Complete Guide to MTERM II		$ 7	BC
	Booklet on MTERM II		
TS2068		$140	SE
TS1500	complete	$80	SE
TS1000		$40	SE
Computer Repair		varies	SE
Computer Repair		varies	DE
TS2068 to spectrum romswitch		$40	RE
T/S software		varies	WM
QL hardware and software		varies	QC
T/S 2068 packet stuff		$110	GC
T/S 1000 packet stuff		$55	AE

ID	Addresses
HT	Hal-Tronix, Inc. Box 1101 Dept QZX Southgate, MI 48195 (313) 285-1782
ZS	Zebra Systems 78-06 Jamaica Ave. Dept QZX Woodhaven, NY 11421 (718) 296-2385
SE	Sunset Electronics 2254 Taraval Street Dept QZX San Francisco, CA 94116 (415) 665-8330
EB	E. Arthur Brown Co. 3404 Pawnee Drive Dept QZX Alexandria, MN 56308 (612) 762-8847
BC	Barry Carter Box 614 Dept QZX Warren, MI 48090
GR	G. Russell Electronics RD1 Box 539 Dept QZX Centre Hall, PA 16828 (814) 364-1325
QC	Quantum Computing Box 1280 Dept QZX Dover, NJ 07801 (201) 328-8846
WM	WMJ Data Systems 4 Butterfly Drive Hauppauge, NY 11788 (516) 543-5252
DE	Dan Elliott RT1 Box 117 Cabool, MO 65689 (314) 739-1712
GC	Grey & Clifford Computer Products Box 2168 Inglewood, CA 90305 (213) 759-7406
AE	A. Eckhardt 918 Anna Street Boalsburg, PA 16827

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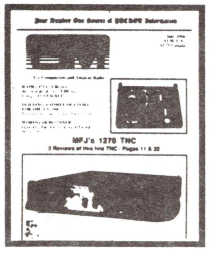

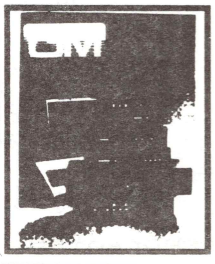

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NAME _____

CALL SIGN _____

ADDRESS _____

CITY _____ ST _____

ZIP _____ PHONE _____

DATE _____

SIGNATURE _____

MORE FIELD DAY LOG CHANGES

Bob O'Leary, K@2F

I was very pleasantly surprised to see my Field Day Log and Dupe Program mentioned by K7FG in the December 1987 issue. It seemed impossible that I had not noticed it's appearance in the September issue. Wouldn't you know that I found it still unopened under a pile of papers in the shack! Believe me, it is rare that an issue of @ZX goes unread by me.

Stepping through K7FG's comments in the December issue, his idea to use a distinctive name for the saved program in line 9@@@ is a good one. Here's a programing challenge for anyone who is interested. Write a routine that would automatically "edit" line 9@@@ after prompting you for a name. You could use a string variable for the name, but I think the real trick will be to get the program to self start after loading it with the chosen name, and without losing any data. I'll let you folks have fun with that one.

Portable stations should not be entered as suggested by K7FG, for several reasons. First, the ARRL does not require the field day dupe sheet to reflect a station's portable status, nor do FCC rules. Field Day rules also do not reqire an accurate count of the stations in each call area. What they do want, however, are accurate alphanumerically ordered entries on the dupe sheet, for purposes of cross-checking. If they found K7FG/9 listed on a dupe sheet as K97FG, I am reasonably sure that they would discount the contact. Enough errors like that and you would not only lose points, but you could be disqualified!

I liked K7FG's additions to the time routine, and he is quite right that line 4412 does not work! The reason for this is that the variable T$ is dimensioned in line 16@ so that it can never exceed 4 characters in length, no matter what you enter. So, scratch line 4412. It has no effect on the program except to waste some memory space.

By the way, if you want to cancel a log entry all you have to do is type nothing and just hit the ENTER key at any of the prompts for Section, Report, or UTC. However, when all of these prompts are answered the data is logged in the computer's RAM, and it is too late to remove the log entry. I was going to write a routine to allow later editing of log entries, but I thought it would use too much programing memory, which would leave less space for contact data. So, there's another challenge for those of you who are interested.

The omissions in line 791@ must have occured at the printer, and not your's truly. I'm glad that K7FG was able to correct the syntax error.

Finally, my friend Don, KO2K, and myself have written some changes to the Field Day program that would make it more useful for other contests. Basically, all we've done is eliminate the number checking routine for the UTC entry, and relabled the heading to let you enter other types of contest exchanges. Change the following lines:

Note: Inverse letters are shown in lower case, and an inverse space is shown as #.

```
   5 REM TSCON2.Ø   LOG AND DUPE
      FOR SINCLAIR/TIMEX PRINTER

  19Ø PRINT AT Ø,Ø;" call### repo
 rt#  locatn#  misc "

 1810 LET P$="     #call##misc
   #call##misc"

 7810 PRINT AT 20,1;">NOW THE loc
 atn# BANANA HEAD..."

 7910 PRINT AT 20,2;"ANYTHING ELS
 E, EINSTEIN?"

 9020 LET P$=" call###  report# l
 ocatn#  misc "
```

Delete lines 4412, 4420, 4430, 4440, 4450, 4490, 7010, and 7030.

I have tapes of the original Field Day Log and Dupe (TSFD1.9) available as well as some other programs that I wrote, including Maximum Usable Frequency (TSMUF-5), Moontracking (MOON-1.4 for you astronomers and EME communicators), and a simple Text Processor (WORD9.5). They are only for the ZX81/TS1000 with 16K RAM, TS1500, and the TS2040 printer. The last 3 are also programed for the CAI/P40 printer. Please specify which programs you want, and send $5.00 for each, or $15.00 for all 4 to: Bob O'Leary, KQ2F, 21 Kate Terrace, Piscataway, NJ 08854.

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BITS AND BYTES

111 On the T/S 2068, one usually responds to the SCROLL? message by pressing any single key. If you respond with a multiple key stroke like Cap Shift 7 or Cap Shift/Symbol Shift, you will get strange results like dumping the edit line with the "C" or "E" cursor, display of ROM data, or multiple scrolls. Stick to single key responses unless you want to play around.

112 The demand for the key tops offered in the last issue suggests that many are looking for them. Some have made a xerox copy of a figure from the instruction book, cut the keytops out and glued them to the keys. A coat of Q dope or varnish will help them to last longer.

113 For those packet users of the QL with QCODE communications software there is a US phone number which will let you use the PRESTEL mode. The number is (212) 925-0843. You can try it out without the usual initial fee. Note when the board askes you to hit # to continue, you must use ENTER. To ENTER use ^M.

114 The three most common elements in the ZX 81 and T/S 1000 to fail are the keyboard, IC1, and the Z80 CPU. If a group of keys fail to respond, your trouble is usually in the keyboard or the connections of the keyboard to the main circuit board. If all the keys or only the shifted keys fail to work, the difficulty is likly to be with IC1, a large socketed chip. The second most likely chip to fail is the large Z80 chip. The other chips rarely fail.

QL Programming Book Review
K5XY

Advanced Programming with the Sinclair QL is a very useful book. It takes up from where the Sinclair QL Users Guide leaves off. It also expands on the explaination of the windows, graphics, and file handling features which the first Sinclair computers did not use to the same extent as the QL.

It is sometimes hard to find a book on just the level which one will find useful. If the book is too simple, you can save your money and just read the Users Guide. If the book is too advanced, you may be presented with a lot of information which you will never use. Most readers will find this book just about right.

This book is aimed at those users who have a working knowledge of SuperBASIC and would like to progress to more advanced programming. The book includes such topics as program logic representation, types of commercial programs, programming techniques, development, testing, live running applications, and document design. It also includes a statement and command reference section. The book provides an essential reference work for users who really want to get to grips with the Sinclair QL.

This is not a book about the QL. It is not a book about the application programs that come with the QL. It is a book about programming with SuperBASIC. It does have a short first chapter about getting the QL operating, but it is only seven pages long with lots of large figures and is just put in to make sure that you can get your QL up and running. Most of the book is specifically directed to programming with SuperBASIC and many example programs are included to illustrate the points discussed. It is not, however, a manual of SuperBASIC. Instead it demonstrates the use of the various features of the programming language that is built into the QL.

Chapter 2 is written at a rather low level. The material is quite basic and common-sensical. Its aim is to try and demonstrate that a lot of potential QL users could develop their own simple systems with a little help, if they were told some of the

elementary do's and don'ts, and shown plenty of examples.

Chapters 3 and 4 give a review, with examples, of the main elements of SuperBASIC.

Like Chapter 2, Chapters 5 and 6 contain no revolutionary ideas. They are designed to show you that common sense is one of the major factors in developing software.

Chapter 7 is probably the most interesting in the book and was a delight to read. The programs were tested as far as possible within the hardware limitations. There you will see that where possible, 'screen shots' of program listings and output are shown. Color was not used in the output for the technical reason that the screen shots were taken from a black and white screen, but you will find it very easy to make changes for color once you understand INK and PAPER.

The book is not perfect; no book ever is. The biggest difficulty is that it was written before the QL was fully developed in order that it could be published at the same time the QL came on the market. However, most of the functions for SuperBASIC were established by the time the author got his hands on a QL so this difficulty is not serious. Somewhat more serious is the decision of the author to not stress the capacity of SuperBASIC to provide procedures for almost anything you want to do. This capability is one of the things which makes SuperBASIC so important an advance.

Procedures permit easy structured programming. It is easy to use procedures to break programs up into functional units. Procedures replace subroutines and can significantly reduce the use of GOTO statements. All these advances make programs easier to understand and write. But the user of the previous Sinclair BASICS have to know what to look for. Strange commands appear in the usual SuperBASIC program and the user unfamiliar with SuperBASIC might not look for the code which defines these new procedures. (The code is often put at the end of the program.) It is not that the book neglects procedures completely. It does not. They are discussed on page 85 and the following pages, but the term is not even listed in the index.

The book is illustrated with many pictures of actual screens created by the demonstration programs included. Most of these pictures are reasonably easy to read. There are a few misprints but not an excessive number.

The author, Martin Gandoff, has been involved with data processing since 1966 in business and technology. He has lectured at a number of state and private colleges.

Advanced Programming with the Sinclair QL, Martin Gandoff (Hutchinson Computer Publishing Company Limited, London,1984) 187 pages, paperback, ISBN 0 09 158961 4. Available from many QL suppliers in this country.

UNCLASSIFIED ADS

WANTED: UNCLASSIFIED ADS for publication in QZX. Cost is 1 cent for each keystroke (characters, blanks, etc.). Payment must be included with order. This is an excellent way to sell your program or unwanted equipment, ask for help, or find a specific program. Send your ad with payment to QZX, 2025 O'Donnell, Las Cruces, NM 88001.

WANTED: T/S 2068 computer w/ps & manual plus anything that goes with it. Hal Schweikart WB3JOP, 753 Yeadon Ave., Yeadon, PA 19050

FOR SALE: Index to QZX consisting of a book of xerox copies of all the covers since December 1982. Send $5.00 plus $1.00 shipping and handling ($2.00 if to a non-US address) to QZX, 2025 O'Donnell, Las Cruces, NM 88001.

WANTED: Interface one with manuals for ZX Spectrun 48K. John A. Byrne, WB4ENB, RT. 3 Box 342, Cookeville, TN 38501, (615) 526-7914

FOR SALE: I have tapes of the original Field Day Log and Dupe (TSFD1.9) available as well as some other programs that I wrote, including Maximum Usable Frequency (TSMUF-5), Moontracking (MOON-1.4 for you astromoners and EME communicatiors), and a simple Text Processor (WORD9.5). They are only for the ZX81/TS1000 with 16K RAM, TS1500, and the TS2040 printer. The last 3 are also programed for the CAI/P40 printer. Please specify which programs you want, and send $5.00 for each, or $15.00 for all 4 to: Bob O'Leary, KQ2F, 21 Kate Terrace, Piscataway, NJ 08854.

WANTED: ZX-81 printer (uses electrostatic paper). Edward L. Radtke, WA4BQE, 1602 Woodluck Ave., Louisville, KY 40205. 1-502-458-7324

WANTED: AERCO Printer Interface (parallel). With documentation and Driver Software. Also, Manual or documentation for "Microtek MT-80P Printer. Jim Dodrill, 4122 Wallingford Ln., Louisville, KY 40218. 1-502-491-4122

QZX FRIENDS

KQ2F -- Bob wrote a nice letter and an article included in this issue. He even wrote the article in such a way that it did not need to be retyped, a time saving feature which I really appreciate. He says that he still has his ZX 80, ZX 81, T/S 1000, T/S 1500, and T/S 2068. They have taught him a lot about computers! Way back when he built the ZX 81 into a cabinet with a full size keyboard, power supply, Memotech 64K RAM, Exatron Stringy Floppy, and motherboard all inside. He says it is still fun to fire up every once in awhile, especially with the stringy floppy. He has a wealth of information and programs for those computers, including books and technical data that may no longer be available. He has every issue of QZX since K2MI first started publishing it.

W8FXZ/9 -- Dick extended his subscription and said he is certainly a Sinclair enthusiast and that QZX was one of his favorite publications.

W1MDZ -- Stan is another who says that the series written by LU8MAD is surely a FB winner.

W*8WAL -- Don has about one of every Sinclair computer. He says that the articles by Fred Nachbaur are the best!

WB4ENB -- John sent in an ad and said that he uses his ZX 81 and Spectrum 48K for ham use and the QL for business.

WD9CZN -- Everett says that he is in the process of installing the new 32K RAM (HMH3256) chip on the board of one of his ZX 81's. He promised to send us the details when the job is finished.

73, K5XY

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